82. *Pseudoromingeria*, a New Genus of Auloporoids from Japan.

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In 1915, I. Hayasaka and the senior author[1] described an interesting form of auloporoid corals as a new species under the name of *Romingeria* (?) *kotoi*, from the *Yabeina globosa* limestone of Kinsyôzan, Akasaka, Mino Province (Gihu-ken); its description was given as follows:

" Corallum cylindrical, rapidly multiplying by lateral gemmation and forming a very crowded ramose corallum, which probably commences in the form of a creeping stolon. Corallites about 2 mm or a little more in diameter, erect, but not quite straight, being more or less curved on one side (hence the corallum as a whole is also curved on one side); usually free laterally, though the adjacent ones not seldom come into contact with their lateral surface; apparently without any trace of connecting tubuli (and also of mural pores ?); external surface smooth, though with faint annular swellings. Septal spines or rather warts arranged in several longitudinal rows. Wall very thick, apparently composed of numerous concentric lamellae, and covered by an extremely thin epitheca. Tabulae thin, very concave facing upwards; sometimes closely set and sometimes very distant ". This specimen is stored in the Institute of Geology and Palaeontology, Tôhoku Imperial University; Reg. No. 8232.

This coral was referred with doubt to *Romingeria* Nicholson, since it showed no trace of mural pores characteristic of the genus. Recently the present writers examined the original thin sections as well as several additional ones newly prepared of the same material, and mural pores were again sought cautiously, but without success; on the other hand, tabulae, though rare, were found to be very characteristic, sometimes being simply concave upwards and more often funnel-shaped and so crowded at places to form coarse vesicules by coalescence of complete and incomplete ones as it is usual in *Syringopora*. No material of *Romingeria* from abroad is at the writers' hand for comparison; however, all the literatures consulted show the tabulae to be distant and horizontal, but never funnel-shaped, in all its typical forms; thus for instance, H. A. Nicholson[2] once stated " tabulae remote, complete, so far as observed horizontal " as to *R. umbellifer* Billings, the genotype. On the other hand, J. Okulitch[3] lately reporting on two forms of *Romingeria* from the Niagaran and Middle Devonian of North America pointed out in one of them, *R. fasciculata* Davis to possess probably remote, flat tabulae, and in the other, *R. ura* Davis, to own cysts or remnants of curving tabulae, though not quite distinct owing to the poor preservation of the material.

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[1] H. Yabe and I. Hayasaka: Palaeozoic Corals from Japan, Korea and China. Jour. Geol. Soc. Tokyo, vol. XXIII, 1915, p. 85 (23).

[2] H. A. Nicholson: On the Structure and Affinities of the Tabulate Corals of the Palaeozoic Period with Critical Descriptions of Illustrative Species. 1879, p. 117.

[3] J. Okulitch: Some Devonian Auloporoids from the Ohio Valley. Amer. Midland Nat., vol. XVIII, No. 3, pp. 443-444, 1937.

In 1913, H. Mansuy[1] described a form of *Romingeria*, *R. asiatica*, from the Permocarboniferous limestone of Cambodia; this is the first instance of the occurrence of *Romingeria* or at least *Romingeria*-like forms in Asia and also in a younger deposit than the Devonian. In his description of this species, no mention of tabulae was given.

On the whole, there are at least two types in the forms hitherto assigned or provisionally referred to *Romingeria*, one possessing remote, horizontal tabulae (*R. umbellifer*, *R. fasciculata*) and the other funnel-shaped ones or remnants of curved ones (*R. ura*).

Regarding the growth habit of colony, there exists a considerable difference between the genotype, *R. umbellifer*, and some of the other forms. As emphasized by Nicholson[2], C. E. Beecher[3], and others, corallites are regularly verticillate at short intervals in *R. umbellifer*, while this is not the case in several others. Perhaps it may be right to separate generically the one type from the other, according to this difference.

The Japanese material now in consideration is a fairly large colony somewhat exceeding 10 mm in diameter, of clusters of cylindrical corallites which multiplie by lateral gemmation at irregular intervals and are never arranged in so regular verticils as in *R. umbellifer;* all the corallites are uniform in size and uniformly erect in conformity with the general trend of the growth of colony, coming in lateral contact only for a short distance after budding. Where are in lateral contact, the corallites hold their respective walls distinct, without uniting into a single one; further there are no mural pores. Stolons are also lacking, corallites being united one another only at the points of budding. Tabulae are commonly funnel-shaped, rather crowded when present and occassionally forming vesicles or cysts by coalescence of complete and incomplete ones; in many corallites they are almost lacking. All these features seem to the writers to hinder the reference of this species to the genus *Romingeria*, and to warrant the institution of a new genus, *Pseudoromingeria*, for the reception of it. The revised diagnosis of *Pseudoromingeria kotoi* (Yabe and Hayasaka), which is now monotypic, is as follows:

Corallum forming subramose colonies assembling to a lax mass more than 10 cm in diameter and consisting of a number of cylindrical corallites in clusters; probably creeping in the earliest stage of growth. Corallites 2 mm in diameter, 10–15 mm long, subcylindrical, narrowed proximally, multiplying by lateral gemmation, erect, not quite straight being more or less curved to one side; usually free laterally, though several adjacent ones not seldom come into lateral contact for a short

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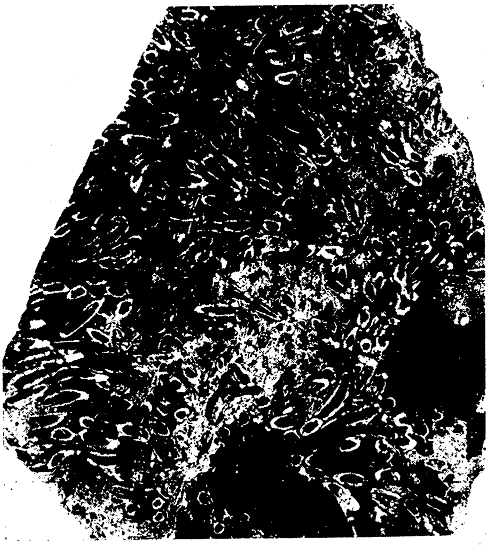
1) H. Mansuy: Faunes des calcaires a Productus de l'Indochine. Mém. Serv. Géol. l'Indochine, vol. II, Fasc. 4, p. 111, 1913.

2) H. A. Nicholson: op. cit-. p. 116.

3) C. E. Beecher: Studies in Evolution, p. 426, 1901.

distance after gemmation; external surface apparently smooth, probably provided with faint annular swellings. Septal spines or rather warts more or less arranged in longitudinal rows, irregularly disposed and



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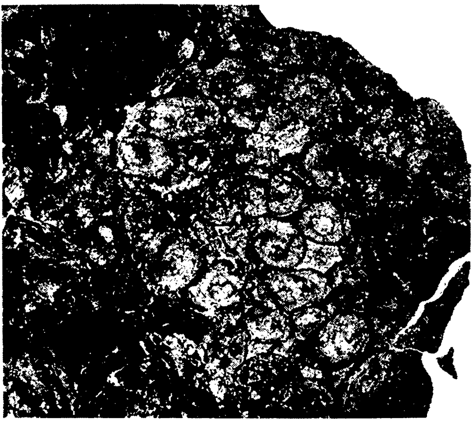

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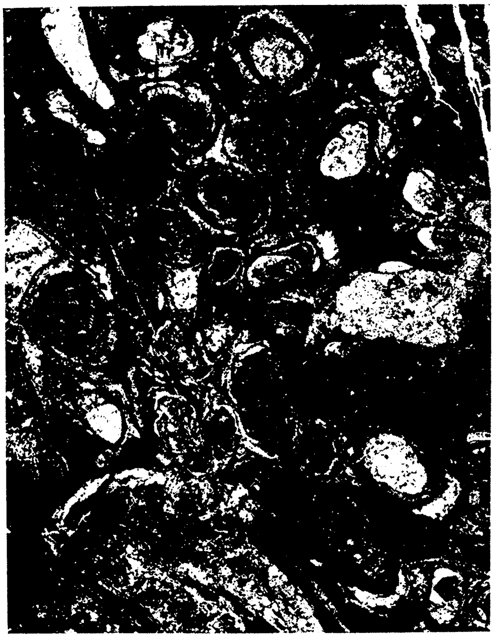

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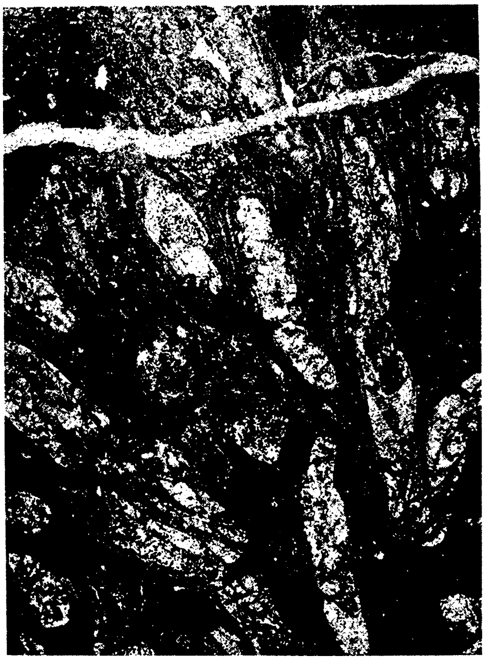

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1-3. *Pseudromingeria kotoi* (Yabe and Hayasaka) from Kinsyôzan. 1, Polished surface; nat. size. 2, Cross- and oblique sections of corallites; ×5. 3, Longitudinal sections of corallites; ×5.
4. Cf. *Pseudromingeria kotoi* (Yabe and Hayasaka) from Hirabara. Cross-sections of corallites; ×4.

counted 1–5 in transverse sections of corallites, and at most 0.5 mm long. Wall thick, 0.3–0.5 mm, apparently composed of numerous concentric lamellae, and externally lined with an extremely thin epitheca. Tabulae very thin, sometimes concave upwards, or more commonly funnel-shaped and also forming cysts, very irregular in disposition, sometimes being closely set, but usually lacking for a considerable distance; almost absent in many corallites.

This species somewhat resembles *Romingeria umbellifer* Billings in the general mode of growth of its colony, though the corallites are never arranged in verticils. The latter has mural pores in common with *Favosites;* but these do not occur in the former. This species, therefore, bears only a distant affinity with *Romingeria.*

It has the wall-structure, septal spines and funnel-shaped tabulae in common with *Syringopora,* but differs considerably from it in the mode of growth, having much shorter corallites which are never arranged regularly parallel to one another and connected by stolons. In many respects it is similar to *Aulopora* and there is almost no doubt about its being an auloporid, but differing from *Aulopora* and its aliies hitherto known by erect corallites characterized by funnel-shaped tabulae.

Locality: Kinsyôzan, Akasaka-mati, Gihu-ken. *Yabeina* limestone (Permian).

In a thin section of a limestone interbedded in the schalstein developed at Hirabara, about 1 km NW of Ôta-mati, Mine-gun, Yamaguti-ken, a similar looking coral in transverse section is found; compared with the preceding material, it differs only by smaller corallites which are 1.5 mm in diameter; in so far as can be judged from this single section, it is otherwise hardly distinguishable from *P. kotoi.* For confirmation, however, more material is needed.

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